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ABSTRACT

This curriculum guide for grades K-6 is the second volume of a two-part series. It is meant to provide an ordered sequence of mathematical concepts from which teachers may organize an arithmetic program allowing for individual student progress with the greatest amount of individual attention. Each topic is arranged into levels based on the topic's content and not necessarily by grade level. Each level contains the following general categories: Concepts, Behavioral Objectives, References and Resources. The objectives are matched with textbooks referenced by pages and with specific resource materials to be used in the instruction. A list of activities that may be used for instruction is also provided at the end of each level. Topics covered include fractions, money, time, systems of measurement and geometry. Also provided is a list of 54 classroom games that are directly related to the topics included in this guide. For Volume I, see SE 017 304. (JP)

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MATHEMATICS

CURRICULUM GUIDE

GRADES K-6

VOLUME II

Los Alamos Schools
Los Alamos, New Mexico

SE 017 305

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FOREWARD

This continuum represents a revision of the guide that was constructed for the Los Alamos Schools during the summer of 1969. It is meant to provide a program in arithmetic that will permit the individual student to progress through an ordered sequence of mathematical concepts, and give the teacher as opportunity to allow for individual progress with the greatest amount of individual attention.

During the school year 1969-1970, the Los Alamos Schools' Mathematics Committee examined the guide and recommended modifications and additions, and these recommendations are reflected in this edition.

MATHEMATICS

GENERAL CONTENT GOALS:

The content of an improved mathematics program should:

1. Lead the student to understand the language and demonstrate the concepts, structures, and techniques of mathematics.

2. Have mathematical integrity which involves internal consistency, accuracy, and precise vocabulary.

3. Develop in the student a sensitivity to patterns in mathematics and be able to apply these patterns.

4. Develop an appreciation of the broad cultural aspects of mathematics and its contributions to the development of the modern world.

5. Plan for meeting the educational and vocational objectives of the individual student.

6. Help each student reach at least minimal competencies.

7. Be designed to meet the needs of a constantly changing technological society.

Credits:

AASA
ASCD
NASSP
NCTM
LAMC

APPROACH AND SUGGESTIONS FOR USING THIS GUIDE

BEFORE USING THIS CONTINUUM, PLEASE READ THE FOLLOWING:

1. This continuum contains 13 conceptual areas and is not meant to reflect tradtional grade levels.

2. Each level contains the following general catagories: Concepts, Behavioral Objectives, References and Resources. Under References and Resources, we have left columns for textbooks, audio-visual materials. and prepared units or packets. The item, audio-visual materials includes such items as filmstrips, transparencies, records, dittos, math kits, and other materials found in the particular buildings.

3. Each concept refers the teacher and student to several behavioral objectives. The behavioral objectives that are to be considered required are designated with an asterisk, *.

4. Although there is one textbook referred to more than any other book or reference in this continuum, teachers are requested not to consider this source as the only or best source for instruction. This text has been referred to in depth because we felt that many teachers, new or experienced, may need a basic source of reference. However, we hope that as this continuum is employed by teachers, they will expand their sources to many textbooks and include them in their recommendations for the committee that next revises this guide.

5. The first two columns under References and Resources are for various textbooks and their pages that apply to the behavioral objectives. Over the first of these two columns is found the capital letters HM. This stands for the textbook, Houghton-Mifflin. The second column is reserved for other testbooks that have sections that apply to the behavioral objectives. Other textbooks are abbreviated in this column, i.e., HBW stands for Harcourt, Brace and World, HRW stands for Holt, Rinehart, and Winston.

GAMES

1. Silent Action
   Give each child a card with one of the numerals from 1 to 10 written on it. Have each child, in turn, place his card on the chalkledge in the proper sequence.

2. Fix the Mix-Up
   Have pupil arrange cards with numerals from 1 to 10 written on them to show the proper sequence.

3. Detective
   Place pictures of sets of from one to ten objects on the chalkledge. Then flash a numeral card and have two children compete to see who will be the first one to find the set illustrating the given number.

4. Performer Game
   Write a numeral on the chalkboard or flash a numeral card. Call on a child to perform an action he chooses the number of times indicated by the numeral.

5. Arithmetic Neighbors
   Distribute numeral flashcards representing the whole numbers from 1 through 10. Call on a child to come to the front of the room, tell his number, and ask who his neighbors are.

6. Quick and Quiet
   Give each child a set of flashcards of the numerals from 1 to 10. Hold up a picture of a set of objects and have the children respond in unison by counting the number of objects in the set and holding up the numeral card for the correct number of objects.

7. Flying to the Moon
   The teacher has placed Earth and Moon on a flannel board. A number of rockets are used which can be manipulated by the children. How many are flying to the moon? How many are flying from the moon?

8. "Postman"
   Draw apartment house and number each door. The number on the door tells the children how many letters to deliver.

9. Number Books
Staple together sheets of paper to make one booklet for each member of your class. Have children draw and color objects to correspond with numbers.

10. Hanging up the Wash
Set up a clothes line and have children hang up numbers in proper sequence.

11. Picture Cards
Cut twenty tagboard picture cards. Use these cards to make ten matching sets of picture quantities. Have children match sets--include empty set.

12. Number Round Up
Make a large tagboard disc with movable hand attached to its center. Write the numerals from 1 through 10 out of sequence around the circumference of the circle. Have a pupil spin the hand, read the numeral to which it points and tell which numbers come before and after the designated number in natural order.

13. Telephone
Dial a play telephone and say "I'm dialing three plus one." The child called upon answers, "Well, your number is four." If the child answers incorrectly say, "Sorry, wrong number," and dial again.

14. Head and Tails
Place pictures of sets of objects on the chalkledge. Send a boy to the first picture and a girl to the last picture; both should be ready to write on the board. At a given signal, the children write as quickly as possible the numeral for the cardinal number of each set. Variation: Use addition and subtraction cards and have the competitors write the answers on the board above each card.

15. Thinker's Fun
Distribute cards with a numeral for a number greater than 10. Then appoint 3 children to be the symbols $<$, $>$, and $=$. Every child should have a card. Call on 2 children to go to the front of the room, hold up their cards and tell the number of tens and ones in their numbers. Then have the class choose the card holder with the correct symbol of relation to stand between the 2 numerals and read the number statement; for example, "25 is greater than 13." In a case such as this, the 2 children holding numeral cards may be asked to change places and the child holding the sign may be replaced by the one having the "less than" sign.

16. Seven Up
Have all the children put their heads down on their desks. Arrange sets of from 1 to 10 objects on a table at the front of the room. Distribute to 7 children flashcards each containing a numeral from 1 to 10. Call out, "Seven up!" Those children holding the cards stand, go to the front of the room, say their numbers, and place their cards on the corresponding sets of objects. The first child to return to his seat after correctly matching his card with a set of objects is the winner and assumes the duties of the teacher. He reaaranges the sets and distributes the cards to 7 other children. When a new winner is established, the first winner rejoins the class and puts his head down.

17. Knock Out
For practice in the sequence of larger numbers, write at least 4 numerals representing a number sequence on the chalkboard. Let 1 of the numerals be incorrectly placed. Have a pupil "knock out" the wrong number by placing an X on it.

18. Information Please
Arrange the class in teams. Call out a number from 10 to 99. Have a member of each team tell something about the given number. For example, I contestant might tell what number comes before (or after) the given number; how many tens and ones are in the given number; or the sum of 3 and the given number. If a contestant gives an incorrect answer, he sits down and a member of the next team is asked the same question. The game continues in this manner until the only children left standing are all members of the same team.

19. What's My Numeral?
Pin a numeral on the back of a child without his knowing what numeral it is. Let him ask questions about the number, to which the class can answer yes or no. Then give him 3 guesses.

20. Change Places
Tell a child to move to the third desk in the second row. This child tells the pupil occupying that place to move to another desk such as the fifth desk in the last row. The game continues in this manner until every child has had an opportunity to participate. Each time a child gives directions he should do so in a loud clear voice so that the class may check to see that the directions are being correctly carried out.

21. Counting Higher
Write some numerals for upper decade numbers on the chalkboard. Assign a row or team to each numeral. At a given signal the first child on each team runs up and writes the numeral for the next number in sequence. He then returns and hands the chalk to the next person on his team, and so on. The first team to finish with a perfect score is the winner. Variation: This activity may be used to provide practice on descending number sequences as well as ascending sequences.

22. Expando
Make a card for each of the numerals for 1 to 99 and place all the cards in a container. Call on 1 child at a time to select a numeral card and to write its expanded form on the chalkboard. For example, he would write 50 + 8 for the numeral 58.

23. Speed
Flash cards containing numerals in the expanded form to 2 pupi's at a time. Have them race to find another name for the expanded numeral on the number line or the one-hundred chart.

24. Missing Number
Place 3 flashcards with numerals on them in a pocket chart in horizontal form. Turn 1 card to the reverse side. Tell the sum of the 3 numbers. Then call on a child to tell the missing number and turn the card around to verify his answer.

25. Relay Game
Have 2 teams compete to find the vertical notation card which corresponds to each addition or subtraction equation on cards being flashed by a leader. Keep score to heighten interest.

26. Jet Flight
Choose a child to be the pilot and assign him a number. Distribute cards containing the basic addition and subtraction combinations with missing sums and differences to several other children. Then have the pilot go to each card holder and say, "I fly Jet (8). Will you fly with me?" Each child holding a combination of 8 should say, "Yes, I will fly with you," and he should state his combination of 8, tell the answer and get in line behind the pilot. Those children holding cards with combinations of other numbers should say, "No, I will not fly with you, " and state their combinations. The game should continue until all children with combinations of 8 are in line behind the pilot.

27. What Numeral Am I?
Write some open sentences such as the following on the chalkboard: 10 - □ = □, 20 - □ = □, 30 - □ = □, 50 - □ = □. Call on a child to fill in the first place holder with any one of the numerals from 1 to 9 and to ask another child, "What numeral am I?" Have the second child fill in the second placeholder and read the equation.

28. Secret Equations
Think of an addition or subtraction combination. Tell the children the sum or difference and have them cite all of the combinations involving the sum or difference until they discover the secret equation.

29. Blast Off
Draw a sketch of a rocket on the board and write the numerals 54321 next to it. Each child who is able to give a combination of each of these numbers without hesitating may pretend to "blast off" his rocket.

30. All Aboard
Announce that the train is leaving on track 7. Then say "Anyone who knows a way of making 7 may board the train." Let all children who give correct combinations of 7 climb aboard the imaginary train at the front of the room.

31. Quiet Answer
Give each child a set of cards containing one card for each of the numerals from 1 through 10. Read or dictate a "story problem" to the class and have the children answer by holding up the card with the correct answer.

32. Speedy Pointer
Write the numerals 1 through 10 on the chalkboard. Divide the class into 2 teams and give the first member of each team a pointer. Flash a card of an equation with a missing addend and have the children point to the numeral on the chalkboard which completes the equation.

33. Just The Same
Give every child a numeral card for each of the numbers 1 through 10. Then make such statements as, "I am thinking of a number that means the same as 4 + 1." Have the children tell the number by holding up the correct card, in this case the 5 card.

34. Partners
A pupil names a factor and asks someone else to help him make a given product. For example: "I am 2. Who will help me make 8?"

35. Relatives
Write one combination on the board. Call upon children to write the related combinations. The children who write the combinations correctly are "relatives."

36. More Relatives
Send a small group of children to the board. Each child writes a combination and returns to his place. Another group of children steps up and each child writes the related combinations and one new combination. Each child in a third group complete the related combinations and writes a new combination. The game continues in this manner.

37. Arithmetic Puzzle Box
Each child draws a flashcard from a large box. He shows his card, says the combination, and calls upon someone else to tell all the related combinations.

38. Products
A child draws a numeral card for a product number (24). He gives all possible multiplication combinations for the number.

39. Matching Game
Expose a number of combinations in card holder. Be sure to have more than those actually needed for the drill. Give each child an answer card for one of the combinations. The child inserts his answer under the correct combination.

40. Seat of Honor
Choose a front seat and call it the Seat of Honor. Dictate an example or a word problem. Individuals work silently. The child who finishes first rises. As soon as a majority of the class have finished, call upon the first child to give the answer. If his response is correct, he takes the Seat of Honor. If, however, he should have the answer incorrect, the next child is called upon, and so on, until the child with the correct answer is reached.

41. Climbing the Stairs
Draw a set of "stairs" on the chalkboard and write an open sentence (equation with a placeholder) on each step. Have the children, in turn, solve each equation, beginning at the bottom step. If a child makes a mistake at any given step, he "falls down the stairs" and must start over.

42. I Am Thinking
Make statements such as the following: "I am thinking of 2 numbers whose product is 42." "I am thinking of a number which, divided by 9, gives a quotient of 8." The children identify the numbers.

43. Riddles
Make up a riddle involving multiplication or division. For example, "I am 6 times as much as 4. What am I?" Call on a child to solve the riddle; then let the child make up a riddle of his own and call on another child to solve it.

44. Baseball
The "batter" must answer all the related combinations of a given combination before he is allowed to claim a run. Scores for Boys and Girls may be recorded on the board.

45. Telephone
The one calling may say, "I am calling Main 56." The child designated to "answer the telephone" responds by saying something similar to "Mr. 56's residence. 7 times 8 speaking."

46. Mailman
Each child is given a house number. The mailman has 2 letters for each one. He says, for example, "I have mail for 8 times 4." The child whose house number is 32 claims the mail.

47. Mental Race
Dictate: "(5 - 4) X (2 + 6) = 2 times what number?" 2 children compete to mentally find the answer; the winner races another child to find another answer.

48. Group Race
Groups are given slips of paper on which are written examples similar to the one above. There is one exercise for each member of the group. A child finishes his, passes the paper to the next member of the group to solve the second example, and so on. The group which is finished first with the greatest number of correct answers wins.

49. Double Operation

Place the column of numerals 0 through 9 on the chalkboard several times in random order. Assign a child to each column. At a given signal direct the contestants to, for example, "Multiply each number by 0 and then subtract 2." The first child to complete his column correctly is the winner.

50. Race Into Space

Draw pictures of 2 large rockets on the chalkboard and a picture of the moon above them. Write several statements of relation on each rocket; each statement should contain a numeral, a circular placeholder, and another numeral. Choose 2 teams; there should be one relation for each member of each team. At a signal, the first child on each team runs up to the board and writes the correct symbol of relation in the bottom statement on his rocket. He then returns and hands the chalk to the next child on his team, who runs up and fills in the placeholder in the second expression from the bottom; they relay continues until one team reaches the top of its rocket. The team that first reaches the top launches its rocket and lands on the moon. Variation: Use basic multiplication and division combinations or number sequence.

51. Name the Operation

Place several "numeral cards" in a box. Have each of the more able children select a card at random. If a child selects the card with the numeral 45, he might say, for example, "I am thinking of the number 9 and 5. What operation should I use to get 45?" or "I am thinking of the numbers 50 and 5. What operation should I use to get 45?" The child who answers should verbalize the operation as follows: "Use the operation of multiplication. 9 times 5 equals 45." Or he may say, "Use the operation of subtraction 50 minus 5 equals 45."

52. Oral Chain

Dictate numbers and indicate whether they should be added, subtracted, multiplied, or divided. The pupils solve each step as it is given. Keep a written record of the numbers dictated. Check back for errors immediately. For example, say, "3 times 2; minus 4; plus 8; divided by 2; times 5." The children should reply, "6; 2; 10; 5; 25." Other sequences may be:

3 + 60; - 13; X 5 (answer 250)

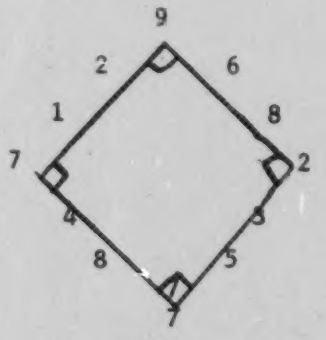
4 + 4; X 5; - 12; - 8; X 5; + 200 (answer 300)

53. Person with Best Eye

Place different objects around room. Have students estimate distance between objects, size, and weight of objects. Person getting the greatest number of answers right or nearly right wins.

54. Softball Game

Make a home run by correctly multiplying 7 on the home plate by each number on the diamond. Think 5 sevens, 3 sevens, 2 sevens, etc. Change the number on the home plate for needed practice.



MATH VOCABULARY

FRACTIONS

LEVEL A

DIVIDE
FRACTION
OBJECT
ONE-FOURTH
ONE-HALF
ONE WHOLE
PART
SET

LEVEL B

OBJECT
ONE-THIRD
FRACTION

LEVEL C

DIVIDE
EQUAL PARTS
FOURTHS
FRACTION
HALVES
SHADED
THIRDS

LEVEL D

DENOMINATOR
EIGHTS
NUMERATOR
PARTS
SIXTHS

LEVEL E

COMMON
DENOMINATOR
FACTOR
IMPROPER
LOWEST TERMS
MIXED FRACTIONS
NUMERATOR
REDUCE

LEVEL F

DECIMALS
GREATEST COMMON FACTOR
IMPROPER FRACTION
LIKE
LCD
LCM
MIXED FRACTION
UNLIKE

LEVEL G

RECIPROCALS
WHOLE NUMBER POWER

MATH VOCABULARY

MONEY

LEVEL A

CENT
COIN
DIME
MONEY
NICKLE
PENNY
QUARTER

LEVEL B

ANSWER
CENT
CENT SIGN
COIN
DOLLAR
DOLLAR SIGN
HALF DOLLAR
MONEY
NICKLE
PENNY
QUARTER
SUM

LEVEL C

BILL
. (DECIMAL POINT)
$ (DOLLAR)
EQUIVALENT
FIFTY CENTS
ITEM
MONEY VALUES
QUARTER

LEVEL D

BILLS
CHANGE
DOLLAR
HORIZONTAL
PURCHASE
VERTICAL

LEVEL E

FIVE DOLLARS
TEN DOLLARS

LEVEL F

none

LEVEL G

none

MATH VOCABULARY

TIME

LEVEL A

AFTERNOON
CALENDAR
CLOCK
DAYS IN WEEK
FACE
HOUR
HOUR HAND
MONTH
MORNING
NIGHT
NOON
NUMERALS (1-12)
O'CLOCK
TIME
TODAY
TOMORROW
WEEK
YESTERDAY

LEVEL B

AFTER
AM
BETWEEN
HALF-HOUR
MINUTE HAND
MINUTES
MONTHS OF THE YEAR
PM
SECOND
TIME

LEVEL C

AM
PM
SECOND HAND
SIXTY SECONDS
UNTIL

LEVEL D

AFTERNOON
AM
CENTURY
DECADE
FORENOON
PM
SCORE
SIMULTANEOUS
TABLES

LEVEL E

CALCULATE
ELAPSE
INTERVAL
SCHEDULE

LEVEL F

CENTURY
DAY LIGHT SAVING
DECADE
FORTNIGHT
LEAP YEAR
SCORE
TIME ZONES

LEVEL G

MILLENIUM
MILLISECOND
NANOSECOND

MATH VOCABULARY

SYSTEMS OF MEASUREMENTS

LEVEL A

BIG
BIGGER
BIGGEST
COLD
DEGREES
DOZEN
HEAVIER
HEIGHT
HOT
LEAST
LENGTH
LIGHTER
LONGER
RULER
SCALE
SHORTER
SHORTEST
TAPE MEASURE
TEMPERATURE
THERMOMETER
WARM
WEIGHT
YARDSTICK

LEVEL B

CONTAINERS
CUP
DEGREES
DISTANCE
FOOT
INCHES
LINES
MEASURE
PINT
POUNDS
QUART
RULER
SCALE
SPEEDOMETER
THERMOMETER
WEIGHT
YARD
YARDSTICK

LEVEL C

CUP
DEGREE
FAHRENHEIT SYMBOL (F)
FREEZING POINT
GALLON
OUNCE
PINT

LEVEL C (cont.)

QUART
WHOLE UNIT

LEVEL D

AREA
LENGTH
LIQUID MEASURES
MEASURING DEVICE
MILE
WIDTH

LEVEL E

CENTIMETER
DENOMINANT NUMBER
OUNCES
POUNDS
ROD
SPEEDOMETER
TONS

LEVEL F

CENTIMETERS
DECIMETERS
KILOMETERS
METER
METRIC
MILLIMETERS

LEVEL G

CENTIGRAMS
CENTILITER
DEALITER
DECIGRAMS
DECILITER
GRAMS
HECTOLITER
KILOGRAMS
KILOLITER
LITERS
MILLIGRAMS
MILLILITER

MATH VOCABULARY

GEOMETRY

LEVEL A

CIRCLES
CLOSED
CORNER
CURVES
FIGURES
INSIDE
LINES
OPEN
OUTSIDE
POINT
RECTANGLE
ROUND
SHAPES
SIDE
SQUARE
SURFACE
TRIANGLE

LEVEL B

CENTER
COMMON SHAPE POSITION
CONE
CORNER
CUBE
EDGE
POINT

LEVEL C

CONGRUENT
LINE SEGMENTS
PLANE FIGURES
POINT
SIMPLE CURVE

LEVEL D

ANGLE
BISECTS
CENTER
COMPASS
CYLINDER
END POINT
EXTERIOR
INTERIOR
INTERSECTING
LINE SEGMENTS
PARALLEL
PERIMETER
POLYGON
RADIUS
SPHERE
STRAIGHTEDGE
TRIANGLE
VOLUME

LEVEL E

BOUNDARY
COMPASS
EQUILATERAL TRIANGLE
INTERSECT
INTERSECTION
PARALLEL
PERPENDICULAR
QUADRILATERAL
REGION
RIGHT ANGLE
RIGHT TRIANGLE

LEVEL F

ARC
AREA
BISECT
CHORD
CUBIC
DIAMETER
HEXAGON
PENTAGON
PERIMETER
PLANE FIGURES
POLYGON
RADIUS
RAY
SEMICIRCLE

LEVEL F (cont.)

SIMPLE SOLID
SQUARE MEASUREMENTS
TANGENT
TRAPEZOID
VERTEX

LEVEL G

$A = \pi r^2$
ACUTE
$C = \pi D \quad D = 2\pi r$
CIRCUMFERENCE
CONCAVE
CONVEX
IRREGULAR POLYGONS
OBTUSE
PARALLELOGRAMS
PI: π
PROTRACTOR
RHOMBI
RHOMBUS

MATH VOCABULARY

SPECIAL TOPICS

LEVEL A

none

LEVEL B

ROMAN NUMERALS

LEVEL C

DEGREE (TEMPERATURE)
GRAPH
ROMAN NUMERALS

LEVEL D

ARABIC
CHARTS
GRAPHS
MATRIX TABLES
PERCENTS

LEVEL E

EAST
KEY
NORTH
SOUTH
WEST

LEVEL F

ACRE
BAR GRAPH
LINE GRAPH
PERCENTS
PROPORTION
RATIO
SQUARE MILE
SQUARE ROD
SQUARE YARD

LEVEL G

COORDINATE PLANES
INTERSECTION SETS
ORDERED PAIRS
SYMBOLS FOR: RATIONAL ($\cup$)
IRRATIONAL ($\cap$)
UNION SETS
VENN DIAGRAMS

LEVEL A

FRACTIONS

BEHAVIORAL OBJECTIVES	REFERENCES AND RESOURCES			
	HM BK K	OTHER	AV	Prepared Materials
Students should be able to:				
*1. Identify ½ of an object or set of objects.	1. 28-29			
a. Cut the following objects in half.				
b. Cut the following objects in half.				
*2. Use correctly and respond to use of the terms "whole" and "one-half" in reference to objects or sets of objects.	2. 28-29			
*3. Divide objects or sets of objects into halves, fourths.	3. 28-29 Book I 203-204			
a. 0, 0, 0, 0 Find ½ of the set. (Divide objects for 2 people.) Find ¼ of the set. (Divide objects for 4 people.)				
b. Find ½ of the points. Find ¼ of the points.				

LEVEL A

FRACTIONS

SUGGESTED ACTIVITIES

A. Fold paper into halves..

B. Cut paper into halves.

C. Use flannel cut-outs.

D. Color ½ of an object.

E. Color ½ of a drawing.

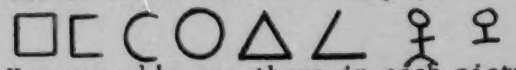
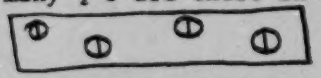
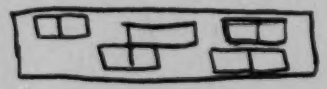
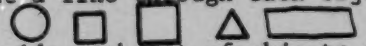
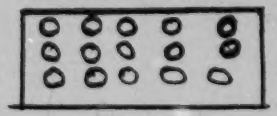
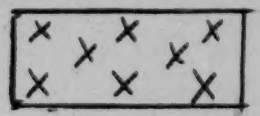
F. Mark "x" on ½ object.

G. Separate sets on paper.

H. Separate sets physically. (toy soldiers, etc.)

LEVEL B

FRACTIONS

BEHAVIORAL OBJECTIVES	REFERENCES AND RESOURCES: HM BK I.	OTHER	AV	Prepared Materials
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Identify ½, ¼, 1/3, of an object or set of objects. Limit of 12 objects.	1. 113-114, 199-200, 201-204			
Circle those which are only ½ of an object. 				
How many ½'s are there in each picture?  = 8 ½'s				
 = 8 ½'s				
*2. Divide an object or set of objects in ½'s, ¼'s, 1/3's.	2. same as 1			
a. Put a line through each object to divide it in ½'s. 				
b. Divide each set of objects in ½ (so that there are the same number of objects in each of your new sets).  				

LEVEL B

FRACTIONS

SUGGESTED ACTIVITIES

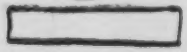
A. Let the pupils fold and cut their own paper models of circles, rectangles, squares, and triangles to discover how many different ways they can separate them into two, three, and four parts of the same size.

B. Place a set of four, eight, ten, or twelve objects on a desk. Have a child remove one-half, one-third, or one-fourth of them.

C. Use flannel board.

LEVEL C

FRACTIONS

BEHAVIORAL OBJECTIVES	HM BK 2	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Divide a whole object into halves, thirds, or fourths and identify an object divided in halves, thirds or fourths. a. Divide into halves b. Divide into thirds  Circle the correct word: a. halves, thirds, fourths b. halves, thirds, fourths	1. 79-86, 229-232, 235-239, 243-246	1. HRW BK II 46-49, 88, 100-101, 176 HBW BK II 58, 112, 130		
*2. Identify 1/2, 1/3, 1/4 of a whole object. Circle fractions which show what part of an object is shaded. State that the terms one-half, one-third, one-fourth mean "one of _____ equal parts". a. Circle correct fraction 1/2 1/3 1/4 1/2 1/3 1/4 b. One half means one of (2) equal parts. 1/3 means one of (3) equal parts.	2. Same as 1.	2. Same as 1.		

LEVEL C

FRACTIONS (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 2	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*3. Divide a set of objects into 2, 3, 4 equal parts when instructed to divide a set into halves, thirds, or fourths, and identify sets of objects divided into halves, thirds, or fourths. a. Divide this set into halves X X X X X X X X Divide this set into thirds x x x x x x x x x x x x b. Circle the correct fraction xxx xxx 1/2 1/3 1/4 xxx xxx X X X X X X 1/2 1/3 1/4 X X X X X X	3. 79-80, 231-232, 237-238, 244-246	3. Same as 1.		
*4. Draw a circle around 1/2, 1/3, 1/4 or a set of objects and select the fraction which describes the circled part of a given set. a. Draw a circle around one-half of this set: X X X Which fraction names the part you circled? X X X 1/2 1/3 1/4	4. Same as 3.			

LEVEL C

FRACTIONS (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 2	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*5. Solve one step word problems. Mother baked 12 cupcakes. We ate half of them for dessert. How many were left?	5. BK III 176-177	5. HBW BK II 130-131 HRW BK II 86, 88, 100, 125		

LEVEL C

FRACTIONS

SUGGESTED ACTIVITIES

A. Objects can be broken, torn, or cut into equal parts, and groups of things can be separated into smaller but equal-sized groups.

B. Prepare a set of materials so that each child may have several models or rectangular regions which have been portioned into halves, thirds, fourths.

C. Provide practice in adding and subtracting fractional numbers orally.

D. Have the children make up, illustrate, and solve simple problems involving fractional numbers. Problems may be made up about pies, cakes, candy bars, and so on.

E. Objects such as string, ribbon, and paper plates can be used as illustrative materials.

F. Make practice cards out of tagboard--the cards can be put together as a whole or taken apart down to 1/4's.

G. Use money to show fractions.

LEVEL D

FRACTIONS

BEHAVIORAL OBJECTIVES	HM BK 3	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Identify objects using fractions through 8/8. Write a fraction to tell what part of each figure is shaded: (1/6) (1/8) (2/3) (3/4) (1/6)	1. 160-161, 163-164, 168-169, 187-188		1. 16 mm F 16--"What Are Fractions"	
2. Divide sets of objects into fractional parts. The fraction under each set tells what part you should shade. (Student does shading) ● ● ● ● ○ ○ ● ● ● ○ ● ○ ○ ○ ○ ○ ○ ● ○ ○ ○ ○ ○ 1/2 2/3 3/4 1/8 Circle 1/6 of this set △ △ △ △ △ △ Circle 1/8 2/3 3/4	2. 129, 134, 138, 143, 166			
*3. Add any 2 fractions with same denominator. 1/4 + 1/4 = 7/9 + 5/9 = 2/6 + 1/6 = 5/12 + 11/12 = 5/8 + 2/8 =	3. 163-164, 172, 173, 177			

LEVEL D

FRACTIONS (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 3	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*4. Identify an equivalent fraction for a given fraction, using pictures. Write another fraction for the shaded part of each figure. 1/2 = 2/4 1/4 = 2/8	4. 168, 169, 171, 187	4. HBW BK III 86-89 HRW BK III 111-113		
*5. Distinguish and name the numerator and denominator in a given fraction. The fraction 1/2 has two parts. The "1" is called the (numerator), and the "2" is called the (denominator). Circle all the numerators in the fractions below; put a box around the denominators: 1/2 3/4 7/8 12/15 2/3	5. Book IV 132-133, 300-301			
*6. Find the fractional part of numbers by dividing by denominator. 1/2 of 2 = 2/2 = 1	6. Book IV 132-133	6. HRW BK III 266, 282, 289 HBW BK III 90, 182		

LEVEL D

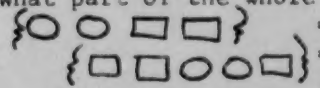
FRACTIONS

SUGGESTED ACTIVITIES

A. Fold and cut the last sheet of paper into halves. Now fold and cut the halves into halves again. Fold and cut the fourths into halves again. By manipulating the paper, lead the children to making the generalization that as we divide something into a greater number of equal pieces, the pieces become smaller.

LEVEL E

FRACTIONS

BEHAVIORAL OBJECTIVES	HM BK 4	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Use all common fractions in dividing an object and a group. = ½ = 3/6 ½ of 1 ½ of doz. What part of the whole set are the squares?  = 3/4 or 1/2 = 3/5	1. 128-129, 134-138, 152, 288, 290		1. 16mm-F16 "What are Fractions?" FS-587 Add and Subtraction of Fractions	
*2. Find fractional parts of whole numbers giving a whole number answer. What is 1/3 of 36? ½ of 6 = 3	2. 150, 152			
*3. Change fraction to an equivalent fraction, with a different denominator. Reduce fraction to lowest terms. Reduce the following fractions: 9/81 25/75 11/55	3. 138-146, 153, 304-306			
*4. Place <, >, or = between 2 simple fractions to show relationship. Reduce fractions to lowest terms. Circle the correct sign: 1/11 < or > 4/27		4. HBW BK IV 49 HBW BK V 119 HRW BK IV 333		

LEVEL E

FRACTIONS (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 4	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*5. Add 2 or more fractions with like denominators. Perform subtraction of fractions. Reduce to lowest terms. 1/3 + 2/3 = 3/3 or 1	5. 134, 136-137, 288-294, 307-311			

LEVEL D

FRACTIONS

SUGGESTED ACTIVITIES

A. Objects can be broken, torn or cut into equal parts, and groups of things can be separated into smaller but equal-sized groups.

B. On the chalkboard draw a set containing triangles and shade part of them. Have children write next to the triangles how much, "in fractional form", is shaded.

C. Use felt on flannel board to show fractional parts.

D. Dictate oral problems.

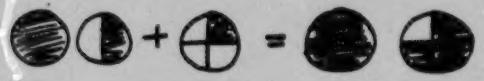
LEVEL F

FRACTIONS

BEHAVIORAL OBJECTIVES	HM BK 5	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Use $<$, $>$, $=$, or $\neq$ to show relationship between pairs of fractions. $2/4 = 1/2$ $3/4 > 1/2$ $2/4 > 1/4$ $1/4 < 2/4$ $2/4 \neq 2/3$	1. 199, 249, 275, 206			
*2. Rearrange groups of fractions into ordered set. 1/4 1/2 1/3 1/8 = 1/8 1/4 1/3 1/2	2. 209, 211, 213			
*3. Use $<$, $>$, and $=$ to show relationship between step equations using fractional expressions with +, -, and X. (+) $1/2 + 3/4 \lessgtr 5/6 + 4/9$ (-) $3/4 - 1/8 \lessgtr 7/6 - 2/3$ (X) $3/9 \times 5/6 \lessgtr 3/4 \times 2/8$	3. 306			
*4. Perform simple multiplication 345 X 74 1380 2415 25,530	4. 198, 200-03, 206-207, 290-299, 302-305, 308 310, 313, 315, 328, 335			

LEVEL F

FRACTIONS (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 5	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*5. Identify an improper fraction and rename improper fractions to lowest terms. Numerator is larger than the denominator in an improper fraction. To change improper fractions into mixed fractions, divide the denominator into the numerator--retaining the same denominator (rename to lowest terms). 9/4 = 2¼ 35/15 = 2 5/15 = 2 1/3	5. 214-17, 232-233, 327			
*6. Perform addition and subtraction with fractions having like denominators. 1 1/2 + 1/4  1 1/8 1/4 3/8 1/2 5/8 3/4 7/8 2	6. 198, 206, 228-230 233, 242-44, 246, 249-50, 257, 259, 290, 315, 330, 331			
1/4 = 2/8, 4/8 = 1/2, 6/8 = 3/4, 1/2 + 1 3/8 = 1 6/8				

LEVEL F

FRACTIONS (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 5	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*7. Find greatest common factor for a set of numbers and use the greatest common factor to reduce fractions to lowest terms. 3/8 = 6/16 2/16 = 2/16 8/16 = 1/2 greatest common factor (denominator in this example) 16 or 8 16 - 1 2 4 8 16 8 - 1 2 4 8 factors (Hint: Look at largest denominator and determine if it is common to all denominators, i.e. 12. If not, double the largest denominator to see if it is then divisible, if so that is the greatest common divisor, if not, multiply largest denominator by 3.) 3/8 = 9/24 2/4 = 12/24 5/12 = 10/24 31/24 = 17/24	7. 166-167, 191, 234			
*8. Find LCM for a set of whole numbers and find the LCM for a given set of fractions. What is the LCM for: LCM 3, 4, 6, 12, 24 24	8. 171, 191, 237	8. HRW BK V 301, 304, 315		

LEVEL F

FRACTIONS (Cont.)

BEHAVIORAL OBJECTIVES	HM BK V	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills) *8. (Continued) What is the LCM for: LCM 7, 2, 4 28 2/4, 2/8, 5/20, 1/2 LCM 16 Hints: Look at largest number and see if other no.'s in the problem are multiples of it. *9. Use the algorithm for addition and subtraction of fractions, find ICD. 1/2 = 10/20 3/5 = 12/20 4/20 = 4/20 26/20 = 1 3/10 7/5 = 49/35 6/35 = 6/36 43/35 = 1 8/35 Steps: 1. Find LCD 2. Take denominators into LCD 3. Multiply factor by numerator i.e. 10 2 | 20 → 10 X 1 = 10 1/2 = 10/20 ←		9. HBW BK V 191-195 HBW BK VI 69-70		

LEVEL F

FRACTIONS (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 5	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*10. Perform addition and subtraction of fractions, unlike denominators. Reduce to lowest terms. Use commutative, associative, and inverse properties in checking problems. 1/2 = 6/12 2/3 = 8/12 1/4 = 3/12 17/12 1 12 17 1/12 = 2/24 +3/8 = 9/24 11/24 Check: Associative Law (1/2 + 2/3) + 5/20 = 1 5/12 1/2 + (2/3 + 5/20) = 1 5/12 Check: Commutative Law 1/12 + 3/8 = 3/8 = 1/12 11/24 = 11/24 Hint: Can only use Associative and Commutative with Addition.	10. 235-239, 247-249, 251, 327			
*11. Perform column addition and subtraction of 2 or more simple fractions, like and unlike denominators. Reduce to lowest terms. Same examples as #5 and #6	11. same as #6 and #10			
*12. Write ratios as fractions, and find missing terms in a proportion. 2/3 = N/6	12. 218-219, 224			

LEVEL F

FRACTION (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 5	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*13. Add and subtract fractions with improper fractions and mixed fractions. Answer in lowest terms. 3 1/2 + 2 1/8 + 5 1/4 7/2 + 17/8 = 21/4 28/8 + 17/8 + 42/8 = 87/8 = 10 7/8 5/98 - 4 3/7 49/8 - 31/7 343/56 - 248/56 95/56 = 1 39/56	3. 214-215, 233, 242-244, 246-251			
14. Perform more complex multiplication of fractions including improper and mixed fractions. Find common divisor, lowest terms. 7/4 X 9 3/6 36/24 X 5 9/10	4. 328			
*15. Solve multiple step word problems. What is the area enclosed by a square that is 3 1/4 inches on a side? 10 9/16 square inches How much do 3 1/2 yards of ribbon cost at 70 cents a yard? How much material did May have left from 4 1/2 yards if she used 2 3/4 yards of material?	5. 204, 231, 245, 292, 307			

LEVEL F

FRACTIONS

SUGGESTED ACTIVITIES

A. Use fraction board and other materials to develop the different kinds of fractional conepts.

B. Finding what part of the room enrollment is boys, girls, etc.

C. Using the globe to develop fractional parts--½ X ¼

D. Composing original and personal problems in addition and subtraction of fractions.

E. Mixing portions of paints and distributing handicrafts materials.

F. Use recipes for increasing or decreasing amounts.

G. Reading and interpreting musical notes.

LEVEL G

FRACTIONS

BEHAVIORAL OBJECTIVES	HM BK 6	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Write decimal equivalent for any proper or improper fraction and change decimal equivalents to fractions. a. Write the following fraction in decimal form. (Problem can be used in either direction) 1/20 = .05 $20\overline{)1.00}$ .05 9/25 = .36 $25\overline{)9.00}$ .36 b. Write the following improper fraction in decimal form. (Problem can be used in either direction) 161/5 = .322 $5\overline{)161.000}$ .322	1. 299-300, 306, 309, 321		1. 16mm F-16 "What are Fractions?" FS 191-196 Decimal and Percentage Series 16mm F-15 "What are Decimals?"	
*2. Use multiplication algorithm for multiplying all fractions. a. 1/4 X 2/3 = 2/12 Rename to lowest terms 1/6 b. 2 1/2 X 6 3/4 X 5 1/3 = Answer: 90 Steps: 1. Rename to improper fractions 2. Multiply 3. Rename to lowest terms	2. 203-206, 234-236, 238-247, 252-254, 260-261, 267, 306			
*3. Divide simple fractions, improper fractions, mixed fraction by using reciprocals.	3. 200, 202, 206, 252-253, 255-259, 261			

LEVEL G

FRACTIONS (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 6	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills) *3. (Continued) a. 1/4 ÷ 1/3 = 1/4 X 3/1 = 3/4 5/3 ÷ 7/2 = 5/3 X 2/7 = 10/21 1 1/3 ÷ 2 7/8 = 4/3 ÷ 23/3 = 4/3 X 3/23 = 4/23 b. 1/8 ÷ 8/1 = 1/8 X 1/8 = 1/64 9/7 ÷ 24/19 = 9/7 X 19/24 = 171/168 = 1 3/168 = 1 1/56 21 1/9 ÷ 8 2/5 = 190/9 ÷ 42/5 = 190/9 X 5/42 = 475/189 = 2 97/189 *4. Solve multiple-step word problems. (3/4 X 1/2) 2/3 +1/16 =	4. 210, 221, 225-229, 237, 239-243, 247-248, 250-251, 254-255, 257-258, 260, 262			

LEVEL G

FRACTIONS

SUGGESTED ACTIVITIES

A. Have the children compare the fractions and the products and see that the product is smaller than the fractions.

B. Make a table and show the relationship between dividing by a whole number and dividing by a fraction

C. Help children learn how to increase or decrease recipes whether they are those needed in cooking, baking, painting, or preparing alcohol for preserving animals.

D. Social studies units can be planned in such a way as to make the use of fractions necessary.

LEVEL A

MONEY

BEHAVIORAL OBJECTIVES	HM BK K	OTHER	AV	Prepared Materials
Students should be able to:				
*1. Recognize and name pennies, nickels, dimes, and quarters.	1. Book I 99, 127, 138			

LEVEL A

MONEY

SUGGESTED ACTIVITIES

A. Distribute cards with pictures of groups of coins on them. Call on a child to go to the front of the room, show his coin card, tell the amount of money represented, and ask for someone to match him. Any child or children having a card with coins worth the same amount should join the first child saying, "I will match you." Have each child name the coins on his card and tell their value.

B. Display a picture of an ice-cream bar and price tag marked 5¢, etc.

C. Let a pupil place a coin beside each article that costs that amount.

D. Make four charts with pictures of things which can be purchased for a penny, a nickel, a dime.

E. Place a pile of nickels, pennies, dimes, and quarters on a table and let the pupils separate and identify them.

F. Have a play store; develop all the possible combination of coins that could be used to purchase items costing up to 25¢.

G. Use flannel board and show grouping of money.

LEVEL B

MONEY

BEHAVIORAL OBJECTIVES	REFERENCES AND RESOURCES			
	HM BK I	OTHER	AV	Prepared Materials
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Recognize a quarter, half-dollar, and dollar. (Review penny, nickel, and dime.)	1. 99, 127, 138, 238, 273-274 Book II 185-194			
*2. Match coins with numerical value; word "cent" used. a. Match: (real coins) b. Draw what it equals. 5¢ ◯ = 1¢	2. same as 1			
*3. Recognize the ¢ and $ signs.	3. Use board and construct dittos 100, 127			
*4. Show that two quarters are the same as one half-dollar and four quarters equal one dollar.	4. BK II 189-196	4. HRW BK II 105		
*5. Use pennies, nickels, and dimes in making change.	5. BK II 195			

LEVEL B

MONEY

SUGGESTED ACTIVITIES

A. Pupils work at their desks with play money showing money needed for various things they wish to buy.

B. Count by tens using pennies.

C. Discuss articles which can be bought for a penny, nickel, dime, quarter, half-dollar, and a dollar.

D. Make a chart showing: What can be purchased for each piece of money from a penny to one dollar.

E. Show relationship of the different coins: put real money on the table and let children count it.

F. Make a chart showing pictures of money or use real money.

G. Set up a toy store. Have each child experience buying and selling.

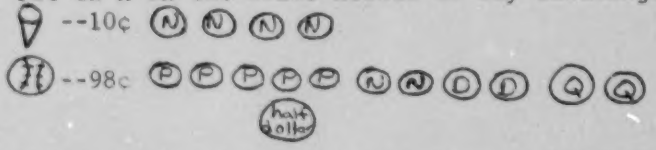
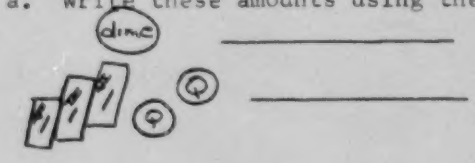
LEVEL C

MONEY

BEHAVIORAL OBJECTIVES	HM BK 2	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Select, name, and state the value of all U.S. coins and of $1.00, $5.00, $10.00, $20.00 bills Use one of these words (penny, dime $20-bill) to name each piece of money shown.	1. 185-194, 196, 277, 300 BK III 15-17, 22 278	1. Holt - BK 2 102-107, 159 Harcourt BK2 92-95, 124, 126		
*2. Match a quarter with its numerical value in other coins. a. Put an X on the one that is the same as 25¢ (P) (O) (half dollar) b. Put ≠ or = in the ◯ to make each sentence true. 25 pennies ◯ a quarter a quarter ◯ four dimes	2. Same as 1.			
*3. Find equivalent coin combinations. a. Put = or ≠ in the ◯ to make each sentence true. 5 pennies ◯ a nickel 900 pennies ◯ 6 dimes and 1 quarter	3. Same as 1.			
*4. Total a collection of coins and indicate if they are enough to buy an article.	4. Same as 1.			

LEVEL C

MONEY (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 2	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills) *4. (Continued) a. Put an X on the coins needed to buy each object.  *5. Use the decimal point and dollar sign in writing money values for $10.00, $25.00, $1.00, and $1.50. a. Write these amounts using the $  	5. Same as 1.			

LEVEL C

MONEY

SUGGESTED ACTIVITIES

A. Becoming familiar with the value of coins.

B. Manipulative illustrations by individual children help them to understand the relative value of coins.

C. Write money numbers.

D. Write figures corresponding to spoken or written sounds.

E. Make change.

F. Use the four processes and fractions with money numbers.

LEVEL D

MONEY

BEHAVIORAL OBJECTIVES	HM BK 3	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Make change for purchases up to $10.00 (Preferably done by performance with play coins; however, can be done as below.) I buy something from you that costs 20¢. I give you a quarter. How many quarters, dimes, nickels, or pennies will I get back? _____quarters _____dimes _____nickels _____pennies A new set of baseball cards is offered to you for 78¢. You have a dollar bill. How many quarters, dimes, nickels, and pennies will you expect to get back? _____quarters _____dimes _____nickels _____pennies		1. HRW BK III 158-159 HBW BK III 168, 172		
*2. Add, subtract money value horizontally and vertically Two addends, sums to $10.00. 45¢ - 11¢ 35¢ $.26 $.22 $.31 $1.00 29¢ .73 - .31	2. 16-17, 22, 278-279			
*3. Total coins, bills, greater, less, equal. (Best done by performance. Put random piles in front of student and have him total them and rank them or rate them equal in amount of worth.)	3. 15-17, 22, 278	3. HBW BK III 41-149		

LEVEL D

MONEY (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 3	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*4. Write money values using signs. Oral and written. Have teacher say, "Write 5 cents," "Write 68 cents," etc. Have students write same with either 6 or $.	4. 15-17, 22, 278	4. HBW 149		
*5. Solve 1 or 2-step word problems. Billy has 24¢. Jill has 8¢ more than Billy. How much does Jill have? (32¢) Jack has a truck worth $.09. Robbie has one worth $.45. How many <u>times</u> more valuable is Robbie's truck? (5 times)	5. 23, 46, 54, 55, 148-49, 175, 176, 202, 216, 246-248, 263, 277, 286, 296, 305, 324, 325, 329			

LEVEL D

MONEY

SUGGESTED ACTIVITIES

A. Ask the pupils to show other coins that mean the same as a dime, a quarter, a nickel, etc.

B. Read the numbers or write the words on the board and have the pupils write the figures.

C. Have children make change to $1.00.

D. Pair equivalent coins:
2 half dollars
4 quarters
10 dimes
20 nickels
100 pennies

E. Show fractional equivalents of common coins:
$.01 = 1/100 of one dollar
$.05 = 5/100 of one dollar
$.10 = 10/100 of one dollar

LEVEL E

MONEY

BEHAVIORAL OBJECTIVES	HM BK 4	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Identify change in coins with purchase amounts up to $100.00 How many nickles and pennies would the clerk give you if you bought a model that cost $4.91 and you gave him $5.00? 1 nickel and 4 pennies Mrs. Peters bought 2 cans of beans for 49¢, 5 lbs. of flour for $1.25, and a pineapple for 53¢. She gave the clerk a $5.00 bill. Which coins and bills should the clerk give Mrs. Peters in change?	1. 58-61	1. HBW BK IV 142		
*2. Add, subtract money values, using cent and decimal notation. $2.00 - 1.50 = $ .50 $2.00 + .50 = $2.50 $10.48 + 16.75 + 21.60 + 11.67 = $60.50 $92.33 - 59.89 = $32.44	2. 58-61	2. HRW BK IV 92-93, 121 HBW BK IV 21, 142		
*3. Total purchases, amounts less than $100.00. Indicate change. Count out change starting with the total value of the purchase.	3. 58-61	3. HBW BK IV 142		

LEVEL E

MONEY (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 4	OTHER	AV	PREPARED MATERIALS

Students should be able to:
(Review and maintain previous concepts and skills)

*3. (Continued)

2 boxes raisins	50¢	Given $1.00
1 bottle vinegar	18¢	Change .03¢
1 7/8 lb. bananas	29¢	
	97¢	

4 cans peas at 17¢	68¢	Given $5.00
3 pkg. rolls at 28¢	84¢	Change $3.03
2 ½ ob. onions at 20¢	45¢	
	$1.97	

LEVEL E

MONEY

SUGGESTED ACTIVITIES

A. Sharing cost of a trip with a group.

B. Finding the difference in the cost of certain games, sports equipment, etc.

LEVEL F

MONEY

BEHAVIORAL OBJECTIVES	HM BK 5	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Add, subtract, multiply, and divide money values. $20.00 ÷ $5.00 = 4.00 (5.00 20.00) Count number of decimal places in divisor then move that number of places in both divisor and dividend. ($20.00 ÷ $4.00) X $4.00 Work in parenthesis first. $15.00 X $3.00 (Refer to #7 Multiplication Level F)	1. 56, 107, 112, 125	1. HRW BK V 10, 16, 19 26, 35, 53 HBW BK V 26-28, 38		
*2. Solve multiple-step word problems involving multiplication and division of money values. What is the cost to the nearest cent of 2.3 pounds of bananas at $.20 a pound and .5 pounds of cherries at $.38 a pound? A grocer paid $4.80 for 12 pounds of butter. He sold the butter for $.74 a pound. How much more did he receive for all the butter than he paid for it?	2. 57, 107, 112, 125, 127			

LEVEL F

MONEY

SUGGESTED ACTIVITIES

A. Finding amount earned "baby sitting."

B. Finding the amount of supplies needed for the class group.

C. Finding the amount of fees collected from the class group for a party.

D. Checking grocery bills.

E. Reading amounts of U. S. money.

LEVEL G

MONEY

BEHAVIORAL OBJECTIVES	HM BK 6	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Add, subtract, multiply, and divide money values.	1. 50-51, 106-107, 115, 142, 302, 313, 316, 325			
*2. Solve multi-step word problems.	2. 40-41, 50, 59, 106, 114-115, 117-119, 136-137, 237, 307, 324			

LEVEL A

TIME

BEHAVIORAL OBJECTIVES	HM BK K	OTHER	AV	Prepared Materials
Students should be able to:				
*1. Make oral comparisons in time such as morning, afternoon, night, yesterday, tomorrow, and today. What time is it? Is it light outside? (afternoon) Is it dark outside? (morning)				
*2. Identify and count whole units of time such as days, weeks, and months by watching and marking on a large calendar.				
*3. Read numerals to 12 on a clock face.			3. F.S. 757-- Learning to Tell Time	
*4. Tell time on each hour. a. _____ o'clock _____ o'clock b. 4 o'clock 8 o'clock 9 o'clock	4. Book I 115-116			
*5. Identify minute and hour hands.	5. Book I 115-116			

LEVEL A

TIME

SUGGESTED ACTIVITIES

A. Set a clock to ring at each hour.

B. Make clock with particular hours designated and have children make the hour with a number below the clock.

C. Check times for T.V. programs.

D. Note special times in school: art, P.E., music, starting and closing.

E. Make large calendar and keep track of days, weeks, and months.

F. Associate time with important events of the day:
   A. We read
   B. We play
   C. Recess
   D. Go home
   E. Get up; go to bed

LEVEL B

TIME

BEHAVIORAL OBJECTIVES	REFERENCES AND RESOURCES			
	HM BK I	OTHER	AV	Prepared Materials
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Recognize meaning of A.M. and P.M.				
*2. Use a large calendar to identify days, weeks, and months.	2. BK II 13	2. HBW BK II 64-65 HRW BK II 140-141 HBW BK I 91		
*3. Write numerals to 12 on a clock face. Put 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 on the clock.				
*4. Tell time on the hour and half hour using a clock.	4. 115-118 BK II 85-86	4. HBW BK I 89-90		
*5. Identify intervals as "before" and "after" when given only the hour hand pointing between two numerals. Put in numerals: after ____ before ____	5. BK II 86, 242			

LEVEL B

TIME

SUGGESTED ACTIVITIES

A. Discuss the value of clocks and watches.

B. Encourage the children to tell about the kinds of clocks they have seen.

C. Let each child manipulate the hands of the alarm clock.

D. Associate time with the important events of the day.

E. Children will play games using their home-made clocks. (paper plates)

F. Observe the classroom clock at intervals during the day.

G. Show clocks on ditto sheets and have child fill in missing numbers.

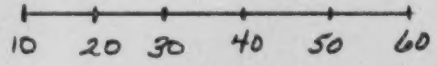
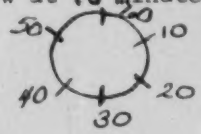
H. Help children to associate some activity with each day in the week.

I. Use calendar to record weather conditions.

J. Discuss the four seasons and the characteristics of each.

LEVEL C

TIME

BEHAVIORAL OBJECTIVES	HM BK 2	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
1. Place an arrow on a clock number line to identify a given number of marks and/or places an arrow on clock number Using an arrow marking a place on two 60 min. number line, child can count minutes between arrow and 60.  	1. BK III 152	1. HRW BK II 63		
2. Count marks and/or places an arrow on clock number line which is bent into a circle for form clock fact. Put arrow at 10 minutes, 30 minutes, etc.  	2. Same as 1.	2. Same as 1.		
*3. Tell time to nearest minute. Write correct time as shown on each clock. (9:05)	3. BK III 150-152, 175	3. Harcourt BK III 41, 370		
*4. Select matching clock faces. (obvious)				

LEVEL C

TIME (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 2	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*5. Match clock face to printed time. 3:00 or three o'clock 4:00 or four o'clock 5:00 or five o'clock		5. Harcourt BK II 62		
*6. Draw hour and/or minute hand, to show printed time. (obvious)		6. Holt BK II 62		
7. Write down other way to state times. How many ways can you state these times? 6:15 - quarter after six 15 after 6 6:45 - quarter to 7 15 minutes to 7 6:30 - six-thirty half past six				
8. Match time statements and clock faces. The train leaves at 7:55 -- School starts at 8:30 --		8. Harcourt BK II 62-63		

LEVEL C

TIME (Cont.)

BEHAVIORAL OBJECTIVES	HM Bk 2	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*9. Supply minute count.	9. BK III 151-152	9. Harcourt BK III 40-41 Harcourt BK II 96		
*10. Supply hour statement.	10. 85,242	10. Holt BK I 54-44, 61 Harcourt BK III, 40-41		
*11. Write time from clock face.	11. 85-86, 242	11. Holt, BK I 54-55 Harcourt BK II, 62-63		
*12. Draw time on face from statement. The train leaves at 7:55 -- School starts at 8:30 --		12. Holt BK II 62 Harcourt BK I 90 Holt BK I 54		

LEVEL C

TIME

SUGGESTED ACTIVITIES

A. Discuss A.M., P.M., and their origin.

B. Read clock to half-hour, quarter-hour, five minutes, and one minute intervals.

C. Understand time data in written form.

D. Time schedule for class activities.

E. Calendar of special class events.

F. Investigate railroad time schedules.

LEVEL D

TIME

BEHAVIORAL OBJECTIVES	HM BK 3	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Can show ability to read simple time tables.				
*2. Participate in class experiences in computing "simultaneous time" in various cities in the United States.				
*3. Understand decade, score, and century. How many decades in one century? (10) When Lincoln said four score and seven years, how many years did he mean? (87)		3. HBW BK IV 126		
4. Read and write time to nearest second and mark his reading as to A.M., P.M. Fill in the correct time, including A.M. and P.M. School starts at _____ We go to lunch at _____ I usually go to bed at _____		4. HBW BK III 40-41		

LEVEL D

TIME

SUGGESTED ACTIVITIES

A. Construct wall charts:
   a. Clock faces with Arabic and Roman numerals
   b. Time schedule for class activities
   c. Calendar of special class events

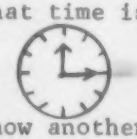
B. Investigate railroad and airline time schedules.

C. Discuss A.M. and P.M. and their origin.

D. Develop time lines as related to social studies.

LEVEL E

TIME

BEHAVIORAL OBJECTIVES	HM BK 4	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Identify calendar units, number of days in weeks, number of days in each month. Complete calendar. Write given date in words and numbers. Word problems		1. HRW BK IV 199, 228 HBW BK IV 126		
*2. Read any time on clock face, show any time using clock face. Write and read time using appropriate vocabulary and punctuation. What time is it?  Show another way to write 7:00 Show 3:45 on this clock 4 o'clock				
*3. Find minutes elapsed between 2 minute hand readings. Limit 2 hours. Calculate passage of time. How many minutes are there between these two clock readings? How much time has passed between the time shown on clock 1 to the time shown on clock 2? 1 8:15 2 8:30		3. HBW BK IV 128 HRW BK IV 41, 75		

LEVEL E

TIME (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 4	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*4. Solve problems adding/subtracting hours, half hours, on clock face. It is 3:55 now! Draw in on clock number 1. What time will it be in 45 minutes? Draw in on clock number 2. 		4. HRW BK IV 71		
*5. Identify second hand. Read time on clock with second hand. Say there are 60 second in a minute.	5. 168	5. HBW BK IV 128		
*6. Add/subtract time units. One step problems. I put a cake in the over at 15 minutes after 3. It must bake for 30 minutes. At what time should I take it out of the oven? It is half past four. I want to go to the store. It will take me 25 minutes to get there and back. I must be home at a quarter to five. Will I have time to go to the store?		6. HBW BK V 39 HRW BK IV 75		
7. Work problems in reading time schedules.				

LEVEL E

TIME (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 4	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
7. (Continued) If a bus leaves Chicago at 9:30 a.m. and arrives at Madison, Wisconsin at 4:30 p.m. How long did the trip take? If a plane leaves Albuquerque at 11:35 a.m. and arrives at Tokyo at 11:12 p.m. How long did the trip take?				
8. Add/subtract 2-3 time units. 1-2 regroupings. (Seconds through years.)		8. HBW BK V 39		
9. Identify equivalent values: decade, score, century, leap year days.	9. BK V, 58	9. HBW BK IV 126-127		

LEVEL E

TIME

SUGGESTED ACTIVITIES

A. Time table may be brought in and problems using these facts may be used in connection with the study of various sections of the United States.

B. Use a stop watch to introduce seconds. Have children mention occasions when seconds must be counted; time for a fire drill, timing of sports events, etc.

C. The correct way of writing time and the use of A.M. and P.M. should be reviewed.

D. Have the children make up problems using the calendar.

E. During spring - track events (timing)

LEVEL F

TIME

BEHAVIORAL OBJECTIVES	HM BK 5	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Add and subtract units of time extending beyond 12:00. Lunch begins at 11:45 and lasts 1 hour and 15 minutes. What time would you have to return to school? If John leaves the house at 1:45 p.m., and it takes him 45 minutes to get to Tom's house, what time will it be when John arrives?	1. 86			
*2. Read time--24 hour clock Greenwich Means Time International Time (Based on time in Greenwich, England) 12 midnight = 2400 hours 1 a.m. = 0100 hours 2 a.m. = 0200 hours 12 noon = 1200 hours 1 p.m. = 1300 hours 2 p.m. = 1400 hours 11 p.m. = 2300 hours 12 midnight = 2400 hours	2. 86			
3. Identify time zones and solve word problems requiring time changes.	3.	3. HBW BK V 276-77		

LEVEL F

TIME (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 5	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills) 3. (Continued) Obtain a time zone map. When it is 12:00 noon standard time in L.A., what time is it in Denver, in Chicago, in New York? How many time zones are there in the U.S.? 4. Identify the change which daylight savings time makes in solving time problems. If we are on daylight savings time, do we turn the clock up on hour or back one hour? If California is not on daylight savings time and we are, what time is it in L.A. if it is 7:30 p.m. here?				

LEVEL F

TIME

SUGGESTED ACTIVITIES

A. Learn to read time tables for trains, buses, airplanes.

B. Finding the time of travel between cities from a time table.

C. Finding the average number of miles traveled per hour on a long trip.

D. Timing plays and programs.

LEVEL G

TIME

BEHAVIORAL OBJECTIVES	HM BK 6	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Name very small and/or very large time units. Definitions: nanosecond--one billionth of a second millenium--a period of 1000 years. a. Which is the smallest time unit? second millenium millisecond nanosecond b. Which of the following is the correct length of a nanosecond? a) one-millionth of a second b) one-hundred thousandth of a second c) one-billionth of a second d) one-hundredth of a second c. Which one of the following is the correct length of a millenium? a) one-million minutes b) one-millionth of a year c) one-million years d) 1000 years	1. 26, 106, 188-193, 195-197			
*2. Solve word problems a. What was the year one millenium ago? Answer: 970 1970 -1000 970 b. If the time is now 10:43 and 56 seconds--what time will it be in 18 minutes and 23 seconds from now? Answer: 11:02 and 19 seconds	2. 332	2. HBW BK VI 111 HRW BK VI 11, 71, 88, 91		

LEVEL G

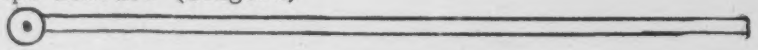
TIME

SUGGESTED ACTIVITIES

A. Use of stop watch (practical instances).

LEVEL A

SYSTEMS OF MEASUREMENI

BEHAVIORAL OBJECTIVES	HM BK K	OTHER	AV	Prepared Materials
Students should be able to:				
1. Determine by observation the temperature changes from day to day. Thermometer Morning temperature _____ (Did it rise) Afternoon temperature _____ (Did it drop)				
*2. Recognize tape measure, yard stick, and ruler. Tell how these instruments are used. Ruler (long) Yard stick (longer) Tape measure (longest) 	2. Book A 207-210			
*3. Recognize that scales can determine one's weight. I weigh _____ lbs. _____ measures _____ measures _____ measures	3. 6			

LEVEL A

SYSTEMS OF MEASUREMENT continued

BEHAVIORAL OBJECTIVES	HM BK	OTHER	AV	Prepared Materials
Students should be able to:				
*4. Identify pairs of objects. One pair of: shoes, gloves, socks.				
5. Identify a dozen. a. How many eggs are there? 12 How many stars are there? etc. 12 b. Draw ½ dozen eggs.				

LEVEL A

SYSTEMS OF MEASUREMENT

SUGGESTED ACTIVITIES

A. Introduce the idea that temperature is a way of expressing warmness and coldness.

B. Introduce the use of the thermometer through checking classroom temperatures and outside temperature.

C. Have children observe temperature changes.

D. Note the changes in temperature as the day progresses.

E. Measure each child several times and keep a record.

F. Measure the room, etc.

G. Have child measure parents, brothers, and sisters.

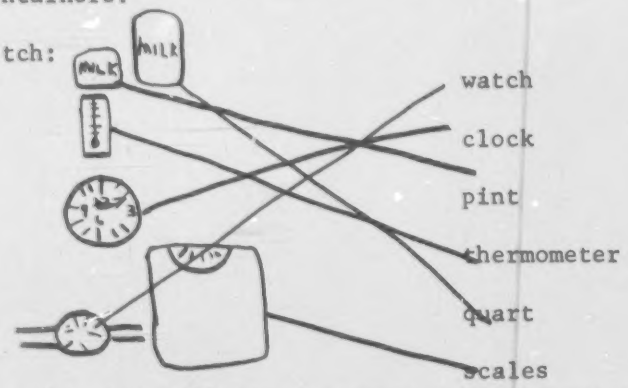
H. Discuss various scales and their uses.

I. Compare weights of objects in the classroom.

J. Compare for sameness as well as differences.

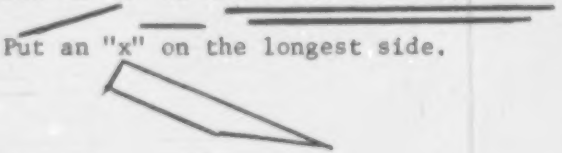
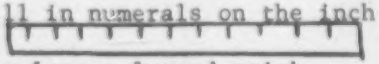
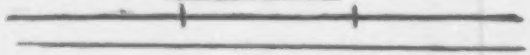
LEVEL B

SYSTEMS OF MEASUREMENT

BEHAVIORAL OBJECTIVES	REFERENCES AND RESOURCES			
	HM BK I	OTHER	AV	Prepared Materials
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Examine and name various instruments of measure: watches and clocks for time, thermometers for temperature, scales for weight, pint and quart containers.	1. 110-112, 115-118			
Match:  watch clock pint thermometer quart scales				
Use objects; tell time; measure temperature; weigh self and objects; measure liquids.				
*2. Use a ruler for measuring.	2. 207-212			

LEVEL B

SYSTEMS OF MEASUREMENT continued

BEHAVIORAL OBJECTIVES	REFERENCES AND RESOURCES			
	HM BK I	OTHER	AV	Prepared Materials
Students should be able to: (Review and maintain previous concepts and skills)				
*3. Determine whether two distances, spaces, or lines are the same length; which is shorter, which is longer. a. Put an "x" on the shortest line. b. Put an "x" on the longest side. 	3. 205-206			
*4. Recognize, name, and compare ruler divisions: inches, feet (3' equal a yard). a. Fill in numerals on the inch marks of the ruler.  b. 3 rulers = 1 yard stick 	4. BK II 75	4. HBW BK I 82-83, 93 HBW BK II 54		
*5. Name correctly, and use cup, pint, quart in measuring; state comparison as, "A pint holds as much water as two cups hold". a. b. 1 pint = ___ cups 2 pints = ___ cups 2 pints = ___ quart	5. 110-112	5. HBW BK I 88 HRW BK II 72-73		

LEVEL B

SYSTEMS OF MEASUREMENT continued

BEHAVIORAL OBJECTIVES	REFERENCES AND RESOURCES			
	HM BK I	OTHER	AV	Prepared Materials
Students should be able to: (Review and maintain previous concepts and skills)				
*6. Recognize that weight is measured in pounds. a. Bring in can weighing 1#. Is that heavy or light? Bring in some label or sack marked 5/10 lbs. Does that weight more than the can? b. How man 5/10 lbs. things will it take to make 50 lbs? Bring in bathroom scale or borrow scale from school nurse. Have children weigh themselves and various objects they may bring in.	6. BK II 275	6. HBW BK II 60 HRW BK II 51		

LEVEL B

SYSTEMS OF MEASUREMENT

SUGGESTED ACTIVITIES

A. Measure each others height.

B. Use teaspoon and cup measurements in cooking experiences.

C. Discuss and experiment with a variety of liquid containers.

D. Count groups of twelve objects and describe them as dozens.

E. Discuss different kinds of scales and their use.

F. Encourage children to weigh merchandise while having dramatic play in the classroom store.

G. Construct paper plate clocks.

H. Help children gain concept of temperature ranges by noting changes in temperature readings between morning and afternoon.

I. Keep weight charts during the year.

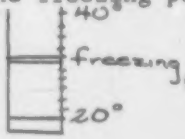
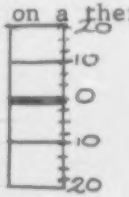
LEVEL C

SYSTEM OF MEASUREMENT

BEHAVIORAL OBJECTIVES	HM BK 2	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Measure objects to nearest inch. Measure these: _____ (1 inch)	1. 69-76, 82-84	1. HBW BK II 54 HRW BK II 73, 80, 175		
*2. Solve measurement problems involving 12 inches in a foot, three feet in a yard. Differentiate measurements stated in inches, feet, and yards. Limit one yard. Use , , or = in the 12 inches 1 foot 2 feet 34 inches	2. 71-72, 75-76			
*3. Use standard units of measure such as: cups, pints, quarts, gallons in determining capacity to nearest ounce. Make each true by putting in the missing number. 1 pint = (2) cups 1 gallon = (4) quarts	3. 87-88, 241 BK III 214-215	3. HBW BK II 61 HRW BK II 51, 72-73, 88, 131, 176		
*4. Determine weight of single object to nearest pound. Oral: Select several objects to be weighed near these amounts: 1 pound 5 pounds (Have students weigh to nearest pound)	4. 275	4. Harcourt BK III 43 HBW BK II 60-61		

LEVEL C

SYSTEM OF MEASUREMENT (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 2	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
5. Recognize the freezing point (F) as 32° (F)  (Student locates)		5. Holt BK II 35		
6. Locate zero on a thermometer, vertical position.  (Student locates		6. Harcourt BK III 44 Holt BK II 35		

LEVEL C

SYSTEM OF MEASUREMENT

SUGGESTED ACTIVITIES

A. Draw lines on your paper; color them: 6 inches red, 2 inches green, 5 inches yellow, 9 inches blue.

B. Provide a pail partially filled with colored water. Help the pupils as they dip out cups of water and pour them into a pint bottle to discover how many cups of water measure the same as one pint. Same with quart and gallon containers.

C. Record temperatures inside and outside of the classroom.

D. Place thermometer in a pan of ice water and have a pupil read the thermometer. Record the temperature on the board. In a similar manner, place the thermometer in pans of hot and lukewarm water.

E. Ask pupil to tell which unit of measurement (pint, quart, gallon) would most likely be used in each of the following situations.
   1. Buying for your car.
   2. Buying for your bicycle.
   3. Buying milk.
   4. Buying paint for a house.
   5. Buying ice cream.

LEVEL D

SYSTEMS OF MEASUREMENT

BEHAVIORAL OBJECTIVES	HM BK 3	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Work problems using conversions (inches, feet, yards, pints, quarts, gallons, etc.) 3 ft. = 1 yd., 36 in. = 1 yd. 1 yd = _____ inches 3 feet = _____ yard 3 feet = _____ inches _____cups = 1 pint _____pints = 1 quart _____cups = 1 quart	1. 68-72, 174-176, 188, 214-215	2. HRW BK III 121-122, 124, 148-149 HBW BK III 45		
*2. Work word problems using equivalent measures. If John jumped 3 feet, how many yards did he jump? (1) If Maria made a quart of milkshakes, how many one-cup servings would she have? (4)	2. 70-72			
*3. Measure length of lines or objects to nearest 1/4 inch. How long is your desk? How long is your longest finger?	3. 71-72			
*4. Select and use suitable measuring device for properties of length, weight, temperature, area. Best done with actual objects, but can use completion problems or matching. What would you use to measure the following: temperature outside_____ your body temperature_____ how much hamburger to buy_____		4. HRW BK III 124		

LEVEL D

SYSTEMS OF MEASUREMENT (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 3	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*5. Use a scale and measure weight of given object in whole and fractional units. Have selection of suitable objects to weigh on scale including a few too light (e.g., feather) or too heavy (a lead weight) to register on scale used. Have children guess weight of object, then ask a child to hold object, see if he agrees with class consensus, check answer by weighing object on scale.	5. 174-175	5. HRW BK III 309 HBW BK III 43		
*6. Use sentences involving metric system of measure. 1 liter --- 1 qt., so 8 liters --- __ __qts.	6. 70-71 BK IV 335-336	6. HBW BK IV 294-295		

LEVEL D

SYSTEMS OF MEASUREMENT

SUGGESTED ACTIVITIES

A. Find where different type measures are used in life such as: liquid--milk; weight--sending a package, etc.

B. Measuring depth for planting different plants and flowers.

C. Let children measure anything in the room they wish and then report on the measurement.

D. Divide children into smaller groups and let them weigh themselves and record their weights.

E. Estimate lengths, then measure for accuracy.

F. Give practice in changing linear units from larger to smaller units and the reverse.

G. Emphasize social applications of weight as related to baggage on airlines, and mailing costs and postage.

H. Find what products sell by the ounce and pound.

LEVEL E

SYSTEMS OF MEASUREMENT

BEHAVIORAL OBJECTIVES	HM BK	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Solve problems requiring conversion of tons into pounds, pounds into ounces, equivalent measures of ounce-pounds, pounds-tons. 1 ton = 8 ounces 1 pound = 4,000 pounds 2 tons = 16 ounces ½ pound = 2,000 pounds	1. BK V, 19, 58	1. HBW BK V 86 HRW BK IV 307, 309		
2. Add, subtract, multiply, divide measures, use regrouping to combine same units 13 oz. + 2 oz. = _____ oz. 3 lbs. 12 oz. - 2 lbs. 14 oz. = _____ lbs. _____oz.	2. BK V, 58			
*3. Read speedometers. d=st problems.	3. BK V, 116			
*4. Solve problems involving distance, rate, time. s=vt (distance = velocity x time) A car was traveling at 35 mph for four hours. What was the distance the car traveled?	4. BK IV 110-111, 303	4. HBW BK IV 216-217		

LEVEL E

SYSTEMS OF MEASUREMENT (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 4	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*5. Solve problems using temperatures, above and below zero, C and F, no conversion. What is the boiling point of water? F = _____ C = _____ At what temperature does water freeze? F = _____ C = _____ These are the temperatures for three days: 87° F, 72°F, and 83°F. What was the average temperature for the three days? 180 2/3°F		5. HBW BK IV 140, 345 HRW BK IV 141-142, 307		
*6. Use equivalent measure--feet, rod, yard, mile. Solve problems using these conversions. 1 mile = _____ feet 1 yard = _____ feet 3 yards = _____ feet A boy jumped 4' 2". How many inches did he jump? If you take a step two feet long, how many steps will you take in a mile?	6. BK V, 19, 58	6. HBW BK IV 45		
7. Use sentences involving the metric system of measure. 1 liter --- 1 qt., so 12 liters --- _____ qts.	7. 335-336			

LEVEL E

SYSTEMS OF MEASUREMENT

SUGGESTED ACTIVITIES

A. After using concrete and semi-concrete materials, have the children discover how to change pints to quarts, cups to pints, etc.

B. Let children discover why many commodities are sold by weight instead of by measure. Use a chart showing the number of pounds in a bushel of corn, barley, oats, apples, peas, wheat, rye, and potatoes.

C. Discuss what is bought by the ton.

D. Give children practice in changing one measure to another.

E. Children should find temperatures of other cities from weather reports and compare them with the temperature of Los Alamos.

LEVEL F

SYSTEMS OF MEASUREMENT

BEHAVIORAL OBJECTIVES	HM BK 5	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
1. Use a meter stick for measuring.	1. 26-27	1. HBW BK V 160		
2. Perform conversions between two metric length measures, mm. to km. millimeter (mm.) .001 meter centimeter (cm.) .01 meter decimeter (dm.) .1 meter meter (m.) 1 meter kilometer (km.) 1000.0 meters	2. 27	2. HBW BK V 160-162		

LEVEL F

SYSTEMS OF MEASUREMENT

SUGGESTED ACTIVITIES

A. Converting larger units of measure to lower units and vice versa.

B. Measuring and marking off play area on playground with metric stick.

C. Exploring the historical development of the English measures of length.

D. Comparing cost of articles against quantity contained.

LEVEL G

SYSTEMS OF MEASUREMENT

BEHAVIORAL OBJECTIVES	HM BK 6	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Weight in grams, kilograms. Make gram-kilogram conversions. Teacher brings in metric scale from (science or?) room and pupils weigh pebbles. If weight is in grams then students will convert weight to kilograms and vice versa.	1. 27			
*2. Convert metric to English or English to metric. a. How many grams are in 5 ounces if 31.103 grams are in 1 ounce? b. How many miles are in 5 kilometers if there are 1.6 kilometers in a mile? 1.6 km. = 1 mi. Answer: 3.13 mi. in 5 km.	2. 27			

LEVEL G

SYSTEMS OF MEASUREMENT

SUGGESTED ACTIVITIES

A. Examine the metric system and discuss its advantages.

B. Explore the historical development of the English measure of length.

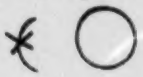
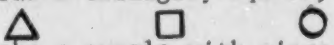
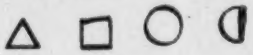
C. Study scores and distances in the Olympic games.

D. Discuss the prefixes of the names of the various units of metric measure. Point out the similarity between the meanings of the prefixes and the Hindu-Arabic decimal system of numeration.

E. Correlate with science experiments.

LEVEL A

GEOMETRY

BEHAVIORAL OBJECTIVES	HM BK K	OTHER	AV	Prepared Materials
Students should be able to:				
1. Walk closed and open curves on classroom floors.	1. 11			
*2. Use orally the following terms: round, face, edge, corner, surface, point, inside, and outside. Have examples of each to show the children.	2. 11-14			
3. Identify and draw crude pictures of open curves. a. Open curve (mark with an x)  b. Make an open curve inside a square.	3. 11-14 Book I 183-184			
*4. Identify and draw crude pictures of a square, rectangle, triangle, and circle. a. Draw a triangle, square, circle.  b. Make a puzzle with pieces that fit.  etc.	4. 14-23, 68			

LEVEL A

GEOMETRY

SUGGESTED ACTIVITIES

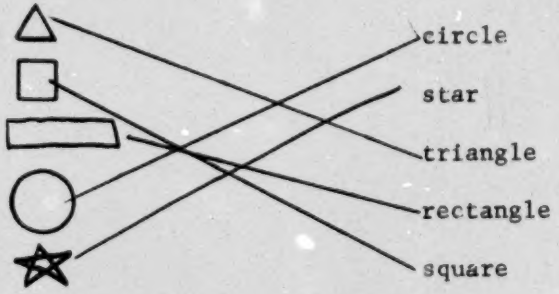
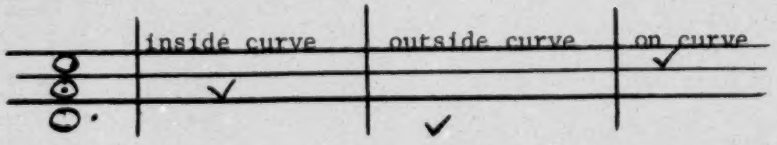
A. Using puzzles, pictures, designs with figures.

B. The teacher gives oral directions for each step in identifying different shapes.
Example: Find 2 big circles and color them black. Find a square and color it yellow, etc.

C. Give each child a model of a square, a rectangle, a circle, and a triangle to place on his desk. Then say, "I want each of you to show me the shape I name, describe, or use in a riddle."
Example: "I have four sides that are the same size and I have four square corners. What am I?"

LEVEL B

GEOMETRY

BEHAVIORAL OBJECTIVES	REFERENCES AND RESOURCES: HM BK I	OTHER	AV	Prepared Materials
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Recognize and name common shapes. Match:  	1. 189-194	1. HBW BK I 84-86, 155 HRW BK I 128-133		
2. Review curves and show points that are outside, inside, and on a closed curve.  	2. 183-188			
3. Demonstrate understanding of a point as a position by use of chalk or pencil dot or by use of finger tip as a point in the space of the classroom. Put point on chalkboard, paper, or point to a spot in the room and explain its "position" as so many inches from the top, side, bottom, pupil, etc.	3. 183-184	3. HBW BK I 80-81		

LEVEL B

GEOMETRY

BEHAVIORAL OBJECTIVES	REFERENCES AND RESOURCES			
	HM BK I	OTHER	AV	Prepared Materials
Students should be able to: (Review and maintain previous concepts and skills)				
4. Demonstrate, by use of chalk or pencil sketches, that a line is composed of many, closely-placed points. Form a line using points (making one point after another).	4. 183-184			

LEVEL B

GEOMETRY

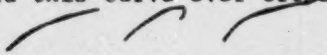
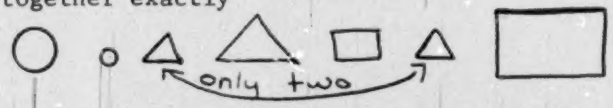
SUGGESTED ACTIVITIES

A. Draw several sets of two dots (points) on the chalkboard. Have the children connect each set of two points by means of a path along a straight line. Then ask, "Which is the shortest path? Which is the longest path?" Point out that each of these paths along a straight line is called a straight line segment.

B. Use puzzles, pictures, and designs with the common shapes.

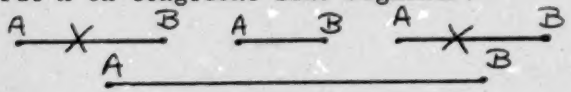
LEVEL C

GEOMETRY

BEHAVIORAL OBJECTIVES	HM BK 2	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Identify and name a point, line segment, square, rectangle, triangle, and circle. Match figure to word: point line line segment square sphere cylinder cone rectangle triangle circle	1. 63-68, 221-225	1. HBW Bk II 53, 55-57, 127		
2. Explain that a simple curve (either open or closed) never crosses itself. Would this curve ever cross itself? Yes or No 	2. 226-228			
3. Explain that congruent plane figures "fit on one another exactly". Put X on congruent figures (figures which would fit together exactly  	3. 69, 74, 217	3. HBW BK II 84		

LEVEL C

GEOMETRY (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 2	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills) 4. Explain that congruent line segments have "lengths that just match". Put X on congruent line segments.  	4. Same as 3.			

LEVEL C

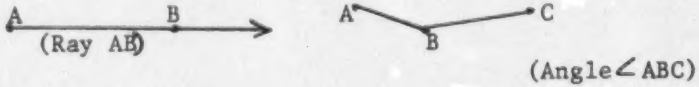
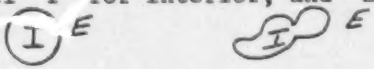
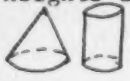
GEOMETRY

SUGGESTED ACTIVITIES

A. Discuss what is meant when we say that two things match or fit exactly. Show two pennies, or two books that are alike in size and shape.

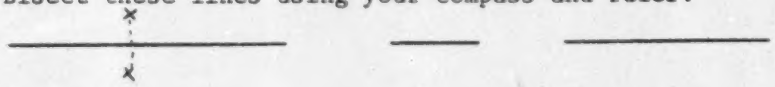
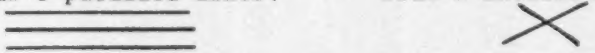
LEVEL D

GEOMETRY

BEHAVIORAL OBJECTIVES	HM BK 3	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Identify and name ray and angle.  	1. 64-65, 74, 75, 288-289			
2. Identify interior and exterior of simple closed curves. Label "I" for interior, and "E" for exterior  	2. 62, 67, 86, 87, 91-92, 284-285, 311			
*3. Name and discuss distinguishing characteristics of cubes, sphere, cylinders, and cones. How would you make a cube into a sphere? (File down the edges and corners until it was round) Which of these forms would hold more water? Why? (Discussion) (Note: in drawing figures make sure bases and heights are equal.) 	3. 292-293			
4. Reproduce line segments by use of compass or string and straightedge.	4. 62-65, 68, 74-77, 82-83, 288-290			

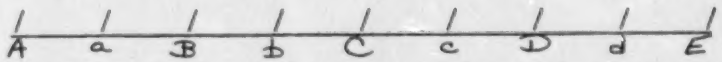
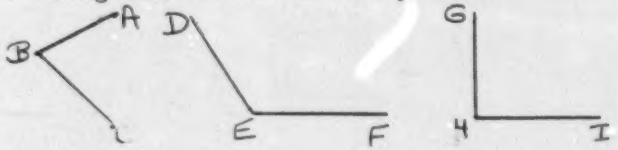
LEVEL D

GEOMETRY (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 3	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
5. Bisect line segments by use of compass and straightedge Bisect these lines using your compass and ruler: 	5. 62-66,68-71, 76, 80, 82-83, 85, 290			
6. Sketch and describe parallel and intersecting lines. Draw 3 parallel lines. Draw 2 intersecting lines  Why won't the parallel lines intersect?	6. 76-77, 81-82, 290-291			
7. Use compass (string), a given center, and radius, to draw a circle. Use the following center point and radius to draw a circle: 	7. 84-85, 92, 284-285			

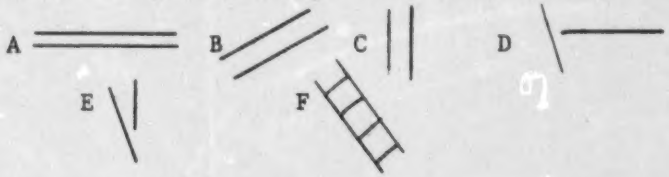
LEVEL E

GEOMETRY

BEHAVIORAL OBJECTIVES	HM BK 4	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Name points in a line, dot used as a representation of a point.	1. 66, 256	1. HBW BK IV 38-39 HRW BK IV 153	1. 16mm F-18 "Geometry and You"	
*2. Identify a "ray" as a line segment with 1 endpoint and extending indefinitely in other direction.	2. 66, 71	2. HBW BK IV 95 HRW BK IV 153		
*3. Identify line segments. Name a line for any 2 points in it.  What line segment represents half of the whole line? AC What other segments are the same distance apart? ac, BD, bd, CE	3. 66, 68-69	3. HBW BK IV 38 HRW BK IV 153		
*4. Identify a right angle and name angle by three points Which angle is a right angle? Name the right angle using the letters of the points.  	4. 71-72	4. HRW BK IV 181		

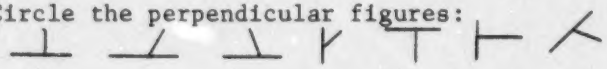
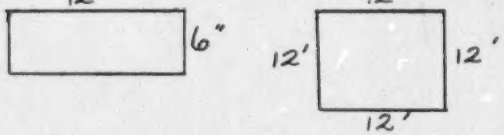
LEVEL E

GEOMETRY (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 4	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*5. Point out or draw equilateral triangle, right triangle, quadrilateral. Equilateral triangle right triangle quadrilateral	5. 76-77	5. HRW BK IV 182-183 HBW BK IV 364		
*6. Identify parallel lines. Which of the following sets of lines are parallel? 	6. 73-74	6. HBW BK IV 97		
*7. Use compass--draw a circle	7. 78-79			
*8. Identify intersecting (crossing of two) lines, locate point of intersection.	8. 67, 257-259			

LEVEL E

GEOMETRY (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 4	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*9. Measure line segments to nearest ½, and ¼ inch.	9. 66, 68-69	9. HBW BK IV 44		
10. Identify lines which are perpendicular. (right angle) Circle the perpendicular figures: 	10. 72	10. HRW BK IV 154-155, 181 183-184		
11. Find perimeters and areas using formulas: p = s+s+s+s A = l x W 	11. 88-90, 266-267	11. HBW BK IV 132-134		

LEVEL E

GEOMETRY

SUGGESTED ACTIVITIES

A. Draw classmates to scale so actual differences appear.

B. Measuring and drawing to scale a room in your home, putting in windows, doors, and furniture.

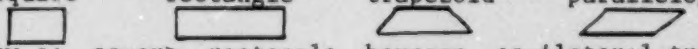
C. Recognizing use of angles and geometric figures in nature and buildings.

D. Compare geometric shapes and discuss.

E. Find distances between two points.

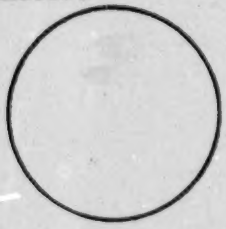
LEVEL F

GEOMETRY

BEHAVIORAL OBJECTIVES	HM BK 5	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Recognize and maintain previous concepts and skills)				
*1. Find perimeters for polygons by measuring.	1. 69			
*2. Find areas of simple plane figures.	2. 86, 95, 114-115, 260-261, 268, 271-273			
*3. Make conversions among square units. 1 sq. ft. = _____ sq. in. 9 sq. ft. = _____ sq. yds.		3. HRW BK V 250-256 HBW BK V 167-169		
*4. Find volumes of simple solids	4. 87, 95, 260-261, 270-274, 287			
*5. Identify plane geometric figures: trapezoid, pentagon, hexagon, and other regular polygons. Identify the following figures: square rectangle trapezoid parallelogram  Draw a: square, rectangle, hexagon, equilateral triangle	5. 65, 97, 151, 262, 289			

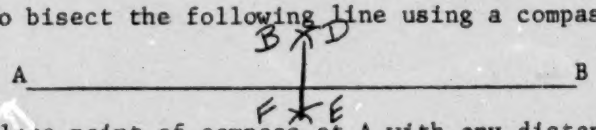
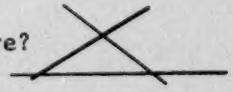
LEVEL F

GEOMETRY (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 5	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*6. Locate circle parts: center, radius, arc, chords, diameter.  Label the circle with the following parts: 1. center 2. radius 3. diameter 4. arc 5. semicircle	6. 76, 262-263			
*7. Identify a "ray" as a line segment with 1 endpoint and extending "indefinitely in the other direction. Make your own definition of a ray from the following statements--then check your definition to the standard definition. 1. A line of sight starting from one's eye. 2. A beam of light from a search light. 3. A ray of light from the sun. 4. A radio beam from a transmitter. What is a geometric figure formed by two rays from a common point? <	7. 64, 66, 68			
8. Measure line segments to the nearest 1/8 and 1/16 of an inch.	8. 68, 69, 73, 95, 260-261			

LEVEL F

GEOMETRY (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 5	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
9. Use a compass to bisect a line segment, construct a line perpendicular to a given line. To bisect the following line using a compass:  Place point of compass at A with any distance on compass and make a mark as near the middle as possible (B). Put point of compass at C and intersect B and D. Repeat process below line E, F, to locate E. Connect intersecting points of E, F, and B, D. Line will be ____ to the given line AB.	9. 72, 264			
10. Identify the vertex of a triangle or angle. Put an X on the vertex. How many vertices are in this figure? 	10. 70	10. HBW BK V 77, 92 HRW BK V 128		

LEVEL F

GEOMETRY

SUGGESTED ACTIVITIES

A. Being able to recognize simple figures.

B. Determining amount of fencing needed for a lot.

C. Following instructions for building bird houses, feeding stations, model planes, cars, trains.

D. Following directions of a dress pattern.

E. Locating cities on a map; using the scale to determine the distance between large cities.

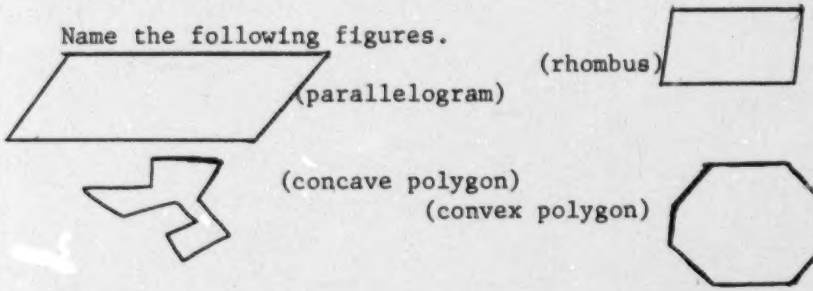
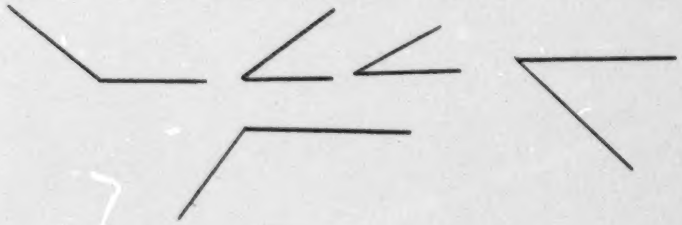
F. Measuring to find inches needed for a picture frame.

G. Finding the number of cubic feet of air per pupil in the classroom.

H. Interpreting the meaning of cubic foot capacity of a refrigerator or home freezer.

LEVEL G

GEOMETRY

BEHAVIORAL OBJECTIVES	HM BK 6	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Identify plane geometric figures: parallelogram, rhombus, convex and concave irregular polygons, etc. Name the following figures.  (rhombus) (parallelogram) (concave polygon) (convex polygon)	1. 68-69, 73 74, 76, 79, 86-87, 90, 99, 138, 291		1. 16mm F-18 "Geometry and You"	
*2. Find the perimeter for: parallelograms, rhombi, regular and irregular polygons by measuring.	2. 74, 76, 79, 83, 97, 99, 142, 143, 269			
*3. Measure angles using protractor; draw and identify angles. Measuring and drawing angles, obvious. Label the following O (obtuse angle) and A (acute angle) 	3. 71-73, 75-76, 80, 82, 84, 85, 97, 268, 276-280			

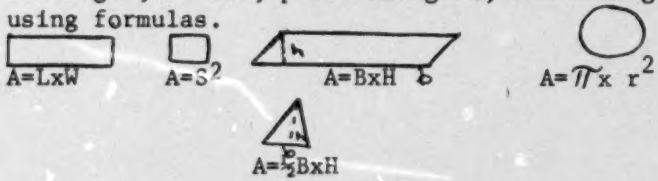
LEVEL G

GEOMETRY (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 6	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
4. Identify value of "pi" π, and can demonstrate its derivation. a. What is the value of π, "pi"? Ans: 3.14 or 22/7 b. Derive the value of "pi" to 4 places, given a circle of 4 inches in diameter and circumference of 12.5664. $C = \pi d$	1. 272-273, 275, 295			
5. Find circumference of circle using the formulas: $C = \pi$; $D = 2\pi R$. a. Find the circumference of a circle with diameter 6 inches? (π = 22/7 or 3.14) $C = \pi d$ b. A circle has a radius of 2.2, what is its circumference? 1/2 d = r	5. 272-273, 295			
6. Find the area of a circle using $A = \pi r^2$ a. Find the area of a circle if its radius is 3 inches b. If a circle has a diameter of 4.5, what is the area?	6. 273, 275, 295			

LEVEL G

GEOMETRY (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 6	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*7. Use formulas to find perimeter of: square, rectangle and triangle. Formulas (Perimeter): Square = P= 4s (s = sides) Rectangle = P = 2l + 2w Triangle = P = s1 + s2 + s3 a. Given a square with one side equaling 4 inches, what is the perimeter? Given a rectangle with width 3 inches and length 6 inches, what is the perimeter? If a triangle has sides equal to 4 inches, 6 inches, and 7¼ inches, what is its perimeter? b. If a square has a side of 4.35, what is its perimeter? If a rectangle has the width 7 inches and the length of 3½ times the width, what is its perimeter? If a triangle has three equal sides and ¼ of one side is equal to 4, then what is the perimeter?	7. 74, 76, 79, 83, 142, 143, 269			
*8. Demonstrate the ability to find area of a square, rectangle, circle, parrallelogram, and triangle by using formulas.  				

LEVEL G

GEOMETRY

SUGGESTED ACTIVITIES

A. Interpret the meaning of cubic foot capacity of a refrigerator or home freezer.

B. Determine the square feet of wall to be painted in the classroom.

C. Give students an opportunity to use a compass for creative design.

D. Have several tin cans with wrappers which can be removed. Cut the wrappers from the top edge to the bottom edge. Measure the areas of the wrappers.

E. Measure area of classroom floor and compute how much paper will be needed to cover the floor.

LEVEL C

SPECIAL TOPICS

BEHAVIORAL OBJECTIVES	HM BK 2	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills) 1. Identify Roman numerals 1-50. a. Complete this with Roman Numerals. I II III IV V _____ VIII IX X XI XII XIII XIV b. Convert the following Roman Numerals to regular numbers. The first one is done for you. VIII = 8 I = ___ IX = ___ VI = ___ III = ___ XI = ___ XIV = ___ IV = ___	1. BK III, 251			

LEVEL C

SPECIAL TOPICS

SUGGESTED ACTIVITIES

A. Point out local buildings and monuments where Roman Numerals have been used.

B. Construct a clock face with Roman Numerals.

C. Discover that when I comes after a letter of greater value it is to be added.

D. Help children discover that there are different kinds of symbols or numbers which have been used in other times and by other people.

LEVEL D

SPECIAL TOPICS

BEHAVIORAL OBJECTIVES	HM BK 3	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
1. Write Roman numerals 1 to 100 Count to 100 by 10's using Roman numerals. (oral) Write the equivalent: 13 = (XIII) 79 = (LXXIX) XXX = (30) C = (100)	1. 251 BK IV, 22-23 27	1. HRW BK III 144-145 HBW BK III 21-22 HBW BK IV 2		
*2. Read thermometer--record temperature using degree symbol. Covered under measurement		2. HRW BK III 189-190, 217 HBW BK III 44		
3. Observe and discuss "chart form" of addition and multiplication matrix tables.	3. 39, 56, 61, 95, 99, 146 179, 186, 193-194, 198, 200-201 208-210, 320-321	3. HRW BK III 162 HBW BK III 340-342		

addend

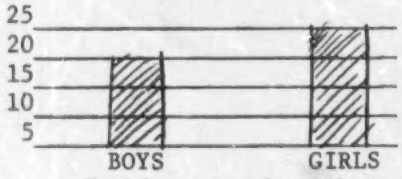
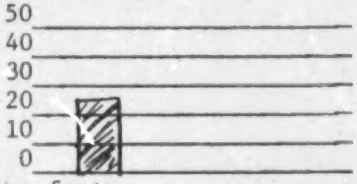
+	0	1	2	3	4
0	0	1	2	3	4
1	1	2	3	4	5
2	2	3	4	5	6

factor

X	0	1	2	3	4	5
0	0	0	0	0	0	0
1	0	1	2	3	4	5
2	0	2	4	6	8	10

LEVEL D

SPECIAL TOPICS (Cont.)

BEHAVIORAL OBJECTIVES	HM BK 3	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*4. Read to secure information from simple well-marked Using the following bar graph, answer the following questions: How many boys were in the library? (20) How many girls? (25)  Children in the library Similar to above but with percents, fractions, or totaling groups.	1. 295, 302-304 311			
5. Draw their own circle or bar graphs to display simple data such as spending a quarter and a nickel out of a half dollar. Draw your own circle or bar graph to display the following items out on a total: 25¢ out of 50¢  One foot out of four feet 3 1/2° out of 8°				

LEVEL E

SPECIAL TOPICS

BEHAVIORAL OBJECTIVES	HM BK 4	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
1. Write Roman numerals for numbers to 500.	1. 22-23, 27	1. HRW BK IV 222-223 HBW BK IV 2		
2. Read distances from simple maps.		2. HBW BK IV 125		
3. Read and make graphs--charts.	3. 84-87, 272-279	3. HRW BK IV 239, 286-287, 323 HBW BK IV 267-268, 272		
a. Make a bar graph to show the averages of boys vs. girls.				
b. Make a circle graph to show how the dollar is used by the government (defense, education, etc.)				

LEVEL E

SPECIAL TOPICS

SUGGESTED ACTIVITIES

A. Collecting and being able to read copyright dates on books indicated in Roman numerals.

B. Collecting and being able to read dates on buildings indicated in Roman numerals.

C. Looking up the history of numbers.

D. Changing Roman numerals to Arabic and vice versa.

E. Ask children to number their papers for arithmetic or spelling by using Roman numerals.

LEVEL F

SPECIAL TOPICS

BEHAVIORAL OBJECTIVES	HM BK 5	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
*1. Convert fractions and decimals to percents and percents to decimals. 1/2 = $2\overline{)1.00}$ = .50 = 50% % always moves decimal two places to the right 7/8 = $8\overline{)7.000}$ = .875 = 87.5%	1. BK VI 318, 320, 321, 328			
2. Solve conversion problem using acre, square yard, rod, square mile. 144 sq. in. = 1 sq. ft. 9 sq. ft. = 1 sq. yd. 30 1/4 sq. yd. = 1 sq. rod 160 sq. rd. = 1 acre 640 acres = 1 sq. mile A farmer owns 320 sq. rods of land, how many acres does he own?		2. HRW BK V 250-256 HBW BK V 167-169		
3. Read, make graphs and charts, including bar line graphs. Include graphs with fractions and decimals when possible. Give examples from math workbook to explain graphs, and charts.	3. 88-[illegible], 280-283			

LEVEL F

SPECIAL TOPICS

SUGGESTED ACTIVITIES

A. Estimating distances of school from home in blocks, half mile, and one mile.

B. Discovering the relationship of rate of travel, time traveled, and distance traveled.

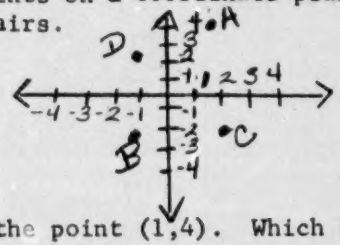
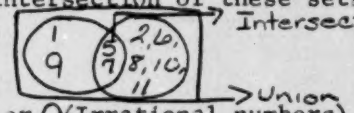
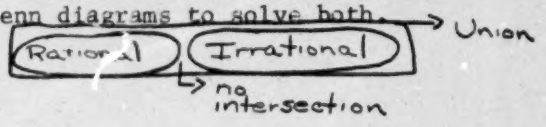
C. Constructing and keeping progress charts and graphs for spelling and arithmetic grades.

D. Making charts showing school attendance.

E. Complete pattern for "What's my rule?" games. Solve problems by finding the rule.

LEVEL G

SPECIAL TOPICS

BEHAVIORAL OBJECTIVES	HM BK 6	OTHER	AV	PREPARED MATERIALS
Students should be able to: (Review and maintain previous concepts and skills)				
1. Locate points on a coordinate plane and graph ordered pairs.  a. Find the point (1,4). Which letter is there? (A) b. Find the point (-1.5, -2.3). Which letter is there? (B) Graph the following ordered pairs: a. (1,3) b. (1,-4) c. (1.3,2) d. (-4.5,5)	1. 94-95, 97, 144-145, 168		1. FS-251 Broken Line Graph	
2. Use Venn diagrams to picture union and intersection of sets. a. (1, 5, 7, 9) U (2, 5, 6, 7, 8, 10, 11) = (5, 7) Show both union and intersection of these sets by use of Venn diagrams.  b. (Rational numbers) U or ∩ (Irrational numbers) = Use Venn diagrams to solve both.  	2.a. Union 5, 11, 30 b. Intersection 4, 11,30, 99, 139, 165, 167, 173-175			